

## ABSTRACT OF THE DISCLOSURE

A failure detection apparatus for an internal combustion engine includes failure detecting means (S22-S30) for detecting abnormality of fresh air quantity detecting means (air flow sensor) based on the result of comparison between a fresh air quantity detected by the fresh air quantity detecting means (air flow sensor) and a reference value for the fresh air quantity set by fresh air quantity reference value setting means (S20), and an EGR device (EGR passage, EGR valve, target opening setting means, EGR valve control means). The fresh air quantity reference value setting means sets the reference value (S16) in accordance with not only the operating state (engine speed  $N_a$ , fuel injection quantity  $Q_f$ , etc.) of the engine but also a target EGR valve opening set by target opening setting means (S12, S14).